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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/720,231 | 11/25/2003 | Wei Guo | H0004345(4016) | 4341 |
| 21567 | 7590 | 11/22/2005 | EXAMINER | |
| WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201 | | | SHEEHAN, JOHN P | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1742 | |

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/720,231 | GUO ET AL. | |
| | Examiner | Art Unit | |
| | John P. Sheehan | 1742 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on August 23, 2005.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 7-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 7-23 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7 to 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lam et al. (Lam, EPO Document No. 1 041 170 A2).

Lam teaches nickel-vanadium sputtering targets having a purity of at least 99.98% (page 2, paragraph 0006). Based on the fact that Lam's Table 1 lists fluorine, chlorine, oxygen and nitrogen, which are all gases, it would appear that the purity level of Lam's sputtering targets are based the inclusion of gases. If, as recited in applicants' claims (e.g., claim 7), gases were excluded from the purity determination of Lam's sputtering target, the purity of the target in Lam's Table 1 would be purer than the 99.9909 % purity listed in Lam's Table 1 and would appear to encompass the purity levels of applicants' claims.

Further, Lam teaches that the V used to make the disclosed target has an actual purity level of 99.8 to 99.95 % and the Ni used to make the disclosed target has an

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actual purity level of 99.995 to 99.9997 (page 2, paragraph 0009). Using these purity levels and an alloy of 7% V and 93% Ni the following calculation determines the purity of a sputtering target product.

$$0.93 \text{ (99.9997)} = 92.9996$$

$$\begin{aligned} 0.07 \text{ (99.95)} &= 6.9965 \\ &\quad 99.9962\% \end{aligned}$$

or an alloy of 4% V and 96% Ni;

$$0.96 \text{ (99.9997)} = 95.9997$$

$$\begin{aligned} 0.04 \text{ (99.95)} &= 3.998 \\ &\quad 99.9977\% \end{aligned}$$

Lam also teaches a process for making the disclosed sputtering target (page 2, paragraph 0008 to page 3, paragraph 15) which appears to be very similar to, if not the same as, applicants' disclosed method of making the instantly claimed sputtering target (compare the applicants' specification pages 7 to 9, paragraphs 26 to 29 to Lam's paragraphs 0010 to 0014). Thus, the composition of Lam's sputtering target is encompassed by the composition of applicants' claimed sputtering target and Lam's process of making the disclosed sputtering target appears to be very similar to, if not the same as, applicants' disclosed method of making the instantly claimed sputtering target.

The claims and Lam differ in that Lam does not teach the crystal grain size recited in applicants' claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the composition of Lam's raw materials and sputtering target are encompassed by the composition of applicants'

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disclosed raw material and sputtering target and Lam's process of making the sputtering target appears to be very similar to, if not the same as, applicants' disclosed method of making the instantly claimed sputtering target. In view of this, Lam's sputtering target would be expected to posses all the same properties as recited in the instant claims, including the purity and crystal grain size recited in applicants' claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

This position by the Examiner is considered to be particularly valid in that applicants have not professed any criticality associated with the disclosed process of making the claimed sputtering target. For example, see paragraph 0029 of the specification wherein applicants disclose exemplary methods of making the claimed sputtering target (see paragraph 0029, line 3) and refer to the single example set forth in paragraph 0034 as exemplary (see paragraph 0029, the penultimate line). From these disclosures it would appear that the method of making the claimed sputtering target is not critical and that there is no particular method that must be used to make the claimed sputtering target.

Response to Arguments

3. Applicant's arguments filed August 23, 2005 have been fully considered but they are not persuasive.

Prior to responding to applicants' remarks the Examiner would like to clarify the basis of the prior art rejection based on Lam. In their remarks the applicants' state that;

"The Examiner...concludes that it would have been obvious to use an average grain size of less than or equal to about 40 μ throughout the components of Lam."
(emphasis added by the Examiner,
applicants' remarks submitted August 23, 2005, page 5, paragraph 4)

The basis for the rejection in view of Lam is not that it would be obvious to use the recited crystal grain size. Instead, the basis for the rejection in view of Lam is that because the composition of Lam's raw materials and sputtering target are encompassed by the composition of applicants' disclosed raw material and sputtering target and Lam's process of making the sputtering target appears to be very similar to, if not the same as, applicants' disclosed method of making the instantly claimed sputtering target, Lam's sputtering target would be expected to posses all the same properties as recited in the instant claims, including the purity and crystal grain size recited in applicants' claims, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can

be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

Applicants further state that;

"The Examiner states that his position is considered to be particularly valid because applicants has not provided sufficient specificity as to a method which would make the claimed 7 recited component" (emphasis added by the Examiner, applicants' remarks submitted August 23, 2005, page 5, paragraph 4)

and then argues that applicants' specification is not overly general. Applicants' arguments based on this representation of the Examiner's position are not persuasive in that the Examiner did not make this statement nor take this position. Rather, in the prior Office action mailed June 30, 2005, the Examiner stated that;

"This position by the Examiner is considered to be particularly valid in that applicants have not professed any criticality associated with the disclosed process of making the claimed sputtering target. For example, see paragraph 0029 of the specification wherein applicants disclose in very general terms that the ingot is subjected to thermo-mechanical processing to impart the desired grain size."

That is, from these disclosures in paragraph 0029 it would appear that the method of making the claimed sputtering target is not critical and that there is no particular method that must be used to make the claimed sputtering target. This position by the Examiner has been further explained in the statement of the rejection set forth above.

Applicants state “that the Examiner is mistaken in his contentions regarding the similarity of Lam’s processing relative to applicants’ processing” and “that Lam does not disclose or suggest any processing which would form an average grain size of less or equal to about 40 μ within a sputtering component structure, and certainly doesn’t disclose or suggest any processing of the type described in applicant’s example at paragraph 0034 of the specification”. Applicants’ remarks are not persuasive.

Applicants’ have not specifically pointed how applicants’ disclosed process in fact differs from Lam’s process. Further, applicants have disclosed the single example set forth in paragraph 0034 as exemplary (see paragraph 0029, the penultimate line). Thus, even if Lam’s process is different than the “exemplary” process set forth in applicants’ paragraph 0034 applicants have not established that Lam’s process would not provide the claimed sputtering target. Finally, regarding applicants’ argument that Lam’s process does not produce the claimed sputtering target, applicants have provided no evidence to support their allegation: “It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification do not suffice.” In re Deblauwe, 222 USPQ 191, 196 (Fed. Cir. 1984).

Mere lawyer’s arguments and conclusory statements in the specification, unsupported by objective evidence, are insufficient to establish unexpected results.” In re Wood, Whittaker, Stirling and Ohta, 199 USPQ 137, 140 (CCPA 1978).

Applicants’ argument that there is no motivation or suggestion in Lam to make a sputtering target having a grain size of less than or equal to about 40 μ and that the Examiner is relying on hindsight reconstruction is not persuasive. The Examiner is not

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relying on hindsight in making this rejection but rather is relying on the fact that the composition of Lam's raw materials and sputtering target are encompassed by the composition of applicants' disclosed raw material and sputtering target and Lam's process of making the sputtering target appears to be very similar to, if not the same as, applicants' disclosed method of making the instantly claimed sputtering target and the legal principle that in view of all this, Lam's sputtering target would be expected to posses all the same properties as recited in the instant claims, including the purity and crystal grain size recited in applicants' claims, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps